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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/647,912

08/25/2003

Helmut Thoma

Westphal.7276

2331

50811 7590 04/24/2007  
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EXAMINER

BOES, TERENCE

ART UNIT

PAPER NUMBER

3682

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/24/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/647,912	THOMA, HELMUT	
	<b>Examiner</b>	<b>Art Unit</b>	
	Terence Boes	3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 2-10, 15-17 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 11-14 18 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### **Request for Continued Examination**

1. The request filed on 04/03/2007 for a Continued Examination (RCE) is accepted and a continued prosecution application has been established. An action on the RCE follows.

### ***Claim Objections***

2. Claims 1, 11-14, 18, and 19 are objected to because of the following informalities: The terms "where" appearing in the claims is awkward. The examiner suggests --wherein--. Appropriate correction is required.

### ***Specification***

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The recitations "axially detached" appearing in claims 1, 11 and 18 lacks proper antecedent basis.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 11-14, 18 and 19, as best understood, are rejected under 35

U.S.C. 102(b) as being anticipated by Shinichi JP 59117951.

Shinichi discloses:

- a first gear (13) having a plurality of first gear teeth located along the radial periphery of the first gear;
- a second gear (12) having a plurality of second gear teeth located along the radial periphery of the second gear
- where the first gear is constructed from a first material and the second gear is constructed from a second material different than the first material (see summary of invention)
- wherein the first and second gears are disposed co-axially adjacent one another on the shaft (gears are shown adjacent, shaft is inherent if not disclosed):
- where the elasticity of the first gear is greater than that of the second gear (see summary of invention),

- where the strength of the second gear is greater than that of the first gear (see summary of invention),
- wherein the first gear and the second gear are arranged co-axially on the shaft axially detached from each other (see figures 3 and 4,) such that the first and second gears rotate in the same direction relative to the shaft and independently, of each other (see abstract).
- where the first gear has a greater elasticity than that of the second gear, such that in the absence of a certain amount of load the first gear is engaged with the cooperating gear and the second gear is disengaged from the cooperating gear and in the presence of a certain amount of torque both the first and second gears engage(s) the cooperating gear (see abstract).
- wherein the first gear teeth and the second gear teeth are helically arranged adjacent to one another (see figure 4C).
- wherein the first gear teeth and the second gear teeth are helically arranged offset to one another (see figures 3 and 4C).
- wherein the first material comprises plastic and second material is metallic.

***Response to Arguments***

5. Applicant's arguments filed 09/22/2006 have been fully considered but they are not persuasive.

6. Applicant argues: "Shinichi is incapable of anticipating amended claim 1. Specifically, upon a fair and proper reading, Shinichi fails to disclose the claimed feature of "where the first gear and the second gear are arranged on the shaft axially detached from each other."

In response, Shinichi discloses a first gear (13) and a second gear (12) arranged on the shaft axially detached from each other (see figures 3 and 4).

7. Applicant further argues "Shinichi instead explicitly discloses that the gears 12, 13 are prepared "as an integral unit." (See the "Constitution" paragraph of the Abstract; emphasis added). Shinichi also discloses that the gears 12, 13 are combined "so as to integrally use the gears as one gear." (See the "Purpose" paragraph of the Abstract; emphasis added). Further, Shinichi discloses that "gear (13) made of an elastic material with a larger tooth thickness than that of gear (12) is integrated with said gear (12) to form a gear." (See page 2 of the full translation of Shinichi, the "Application examples" section, first paragraph). Thus, Shinichi clearly teaches that the two gears 12, 13 are integrated to form a single gear or unit. Thus, Shinichi does not teach or suggest that the two gears 12, 13 are arranged on the shaft axially detached from each other, as in the present claimed invention.

In response, the fact that the two admitted gears (12 and 13) are "integrally [used] as one gear" does not prove that the gears are not "axially detached" as claimed. Webster's II New Riverside Dictionary defines detached as: separate. Clearly the two admitted gears are separate as they are given separate reference characters and discussed separately. Furthermore, the gears function separately as recited in the constitution: "When the gears 11, 12 are meshed, the gear 13 engages with the gear 11 always earlier before the gear 12 engages with the gear 11 by a distance of the larger thickness and rotates always in close contact". The mere fact that the two gears function together does not show that the two gears are not axially detached. Furthermore, Shinichi's figure 4 shows a distinct separation, illustrating that the gears are axially detached. Furthermore, applicant's figures 1-3 show gears immediately adjacent, just as Shinichi's figure 4 shows the two admitted gears immediately adjacent. Furthermore, applicant's invention functions in the exact same way as described in the abstract: "...only the first gear (1), while having the same modulus, comes into engagement with another gear in normal operation. As the load increases, the first gear (1) made of plastic yields in the elastic range so that now the second gear (2) made of metal also comes into engagement in order to accept the forces occurring...".

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8. Applicant further argues "However, the conclusion that the gears 12, 13 rotate independently of each other is incorrect. This is because the cited portion of the Abstract above is not taken in proper context as it fails to cite the entire sentence, which states that "[w]hen the gears 11, 12 are meshed, the gear 13 engages with the gear 11 always earlier before the gear 12 engages with the gear 11 **by a distance of the larger thickness and rotates always in close contact**, eliminating a rapid change of transmission torque without backlash of the gear in its engagement, thus smooth transmission is capable."

In response, the fact that the two gears are "in close contact" does not prove the gears are not axially detached. The gears can be in close contact and still be separate or "detached" as claimed. In fact, applicant's figures 1-3 also show the claimed two gears in close contact.



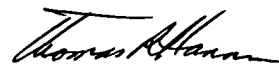
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terence Boes whose telephone number is (571) 272-4898. The examiner can normally be reached on Monday - Friday 9:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TB  
TB  
4/19/07

  
Thomas R. Hannon  
Primary Examiner